

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Vasel et al. )  
Serial No.: 09/289,258 )  
Filed: 4/9/99 )  
For: NON-LETHAL PROJECTILE )  
FOR DELIVERING AN )  
INHIBITING SUBSTANCE TO )  
A LIVING TARGET )  
Group Art )  
Unit: 3641 )  
Examiner: Tudor, H. )

DECLARATION PURSUANT TO 37 C.F.R. § 1.132

Hon. Commissioner for Patents  
Washington, D.C. 20231

Sir:

I, Roger E. Behrendt, declare as follows:

1. I am currently the President and Chief Executive Officer of Jaycor Tactical Systems, Inc. (hereafter "JTS"). I have been in this position for over one year. Prior to my current position, I was the Division Manager of JTS since its inception. Prior to this position, I was the Vice president of Operations for Jaycor, Inc. (hereafter "Jaycor").

2. In the course of my employment with Jaycor and JTS, I have become very familiar with less-lethal and non-lethal weapons. It became abundantly clear that law enforcement is seeking improved alternatives to lethal

weaponry. Less-lethal weapons are typically brought to police confrontation situation where the use of lethal force may be excessive. Non-lethal weapons are also used to stop or detain a suspect where use of lethal force is not warranted.

3. As an Officer of Jaycor Tactical Systems, Inc., (hereafter referred to as "JTS"), I oversee all aspects of the operation of JTS, including product development, sales and marketing of our primary product, the Pepperball system. I am familiar with the sales figures relating to the Pepperball Product. Attached are several exhibits illustrating sales related to the Pepperball product. These sales include the sales of compressed gas launchers, non-lethal projectiles, accessories, and training revenues. The various projectiles include live projectiles containing an inhibiting substance, training projectiles containing water and training projectiles containing scented powder. The inhibiting projectiles contain a powdered version of oleoresin capsicum or powdered OC. Thus, the Pepperball inhibiting projectiles contain a powdered version of the irritant found in liquid pepper sprays. Accessories include carrying cases for the launchers, hoppers, high pressure air (HPA) bottles, magazines, tactical slings and speed pod loaders.

4. Exhibit A shows the total gross sales of the Pepperball system from January 2000 through June 2001. The total sales of the Pepperball product through the end of June 2001 are approximately \$3,098,130. This total includes the sales derived from the launchers,

projectiles, accessories and training revenue. We believe these sales reflect an acceptance in law enforcement of the Pepperball product as an effective non-lethal device that may be used in many situations and is superior to competing products on the market.

5. In terms of the projectiles alone, Exhibit B illustrates the number of projectiles sold and revenue from the projectiles from August 2000 through May 2001. The "red" projectiles are the live inhibiting rounds that contain powdered OC (in some versions, the red projectiles contain powdered capsaicin- the active ingredient within OC), the inert powder training projectiles (colored "purple" or "blue") that contain baby powder, and the clear training projectiles that contain water. Since August 2000, over 413,000 red projectiles, over 720,000 inert powder projectiles, and over 255,000 water projectiles have been sold. Our current price list is attached as Exhibit C. The price of the red projectiles, for example, ranges from about \$1.12/round to about \$1.60/round depending on the quantity ordered. Thus, as seen in Exhibit B, the 413,000 red projectiles sold equate to about \$567,227 in sales for a total of about 27% of the gross sales from August 2000 to May 2001.

6. Based on these figures in Exhibits A, B and C from August 2000 to May 2001, and as shown in Exhibit B, it is estimated that about 50% of the total gross revenues are due to sales of projectiles for use with the Pepperball product. Thus, about 50% of all sales are due to the compressed gas launchers and accessories and

training revenues. Out of the projectile sales illustrated in Exhibit B, it is estimated that approximately 54% of the projectile revenue is derived from sales of the red powdered OC projectiles. Thus, the red projectiles account for about 27% of the total revenue received from August 2000 to May 2001.

7. Furthermore, in the last 18 months, JTS has sold the Pepperball product to approximately 500 out of 35,000 law enforcement agencies nationwide or about 1.4% of all the law enforcement agencies in United States. Competing products include OC aerosol spray canisters, tasers, bean bag shotgun rounds and 37mm/40mm projectile launchers that launch kinetic or chemical rounds. It is estimated that tasers are also used in about 1% of the agencies. We estimate that bean bag shotgun rounds and OC spray canisters are each used in over 50% of the agencies nationwide.

8. The Pepperball product solves many problems of these competing products. For example, the product is truly non-lethal, whereas tasers, bean bag shotgun rounds and 37mm/40mm projectiles may be lethal in some situations, particularly at close range. In contrast, the Pepperball product is effective and safe in both short and long range use. The product even works if the suspect is not directly hit. Furthermore, the product delivers a powdered version of OC. This powdered OC has many advantages over liquid forms. The powder allows for center of mass targeting and even indirect targeting to surfaces close to the suspect. The powder forms a cloud upon impact that surrounds the suspect. The suspect

inhales the powder and experiences an inability to easily breathe that lasts for about 10 minutes. The powder easily cleans off of the suspect, for example, by brushing off the suspect.

9. It is difficult to determine exactly what market share the Pepperball product has obtained. I believe that the Pepperball product is in a market of its own. Most competing products are classified as less-lethal devices. That is, in some situations, they may be lethal. However, the Pepperball product is truly non-lethal. Even if the suspect is struck in the eye with a Pepperball projectile, the suspect may be injured, but the suspect will not die. This places the Pepperball product in a truly non-lethal class along with OC spray canisters. However, the Pepperball product is different from the OC spray devices since it delivers OC from both short and long ranges. Additionally, the OC is powdered, which offers distinct advantages over liquid OC. I am not aware of any non-lethal projectile systems that delivers both a kinetic impact and a powdered OC substance.

10. Classified as a non-lethal system that delivers a powdered inhibitor, the Pepperball product occupies the entire market share, i.e., it is a completely new product. Considering other non-lethal projectiles, such as OC sprays, the Pepperball product has a very small market share. For example, the Pepperball product is used in about 1.4% of agencies vs over 50% of the agencies that use OC sprays. Compared to all non-lethal and less-lethal devices, the market share

of the Pepperball product is small. However, the Pepperball product is substantially different in use and effectivity than all other less-lethal and non-lethal systems on the market and has only been on the market for a short period of time.

11. Regardless of the exact classification of the market of the Pepperball product, JTS has sold the product to about 500 police agencies across the country in the last 18 months. JTS also has product quotes out to about another 140 police agencies in the country totaling approximately \$1 million in outstanding quotes. A listing of about 115 of our outstanding quotes is attached as Exhibit D. In the last 18 months, we have found that about 97% of our quotes have led to sales. Therefore, we project that within the next couple months about 635 agencies will use the Pepperball product, based on our outstanding quotes alone.

12. The fact that over 500 agencies have purchased the Pepperball product within 18 months and the fact that 97% of quotes lead to sales are exceptional. In contrast, Taser International, Inc., has sold their air taser product to as few as 400 agencies since 1993, whereas, we have sold our product to more agencies in significantly less time.

13. I believe that these initial sales of the Pepperball product are also significant in view of the fact that there are barriers in the market that inhibit the sales of the Pepperball product.

14. One significant barrier to sales of the Pepperball product is that it is extremely difficult to sell a completely new weapon system to law enforcement. This is because the product is an entirely new and unfamiliar weapon system using an entirely new launch platform. For example, law enforcement can not purchase the projectiles and use them in their existing firearms. An entirely new launch platform must be used. In contrast, a bean bag shotgun round that may be used in a conventional shotgun and does not require a specialized launch platform. Thus, in order for a law enforcement agency to adopt the product, the agency must purchase both the compressed gas launchers and the projectiles. This represents a significant cost for an agency.

15. Furthermore, even if a particular agency would like to purchase the product, the agency must budget the funds to purchase the product. The agencies purchasing the Pepperball product are governmental law enforcement agencies and thus, all purchases must fit within an allocated budget. Thus, these law enforcement agencies must get funding approved prior to purchasing the Pepperball product. Often, such funding must be approved up to a year in advance. This makes it difficult to sell the product and makes it difficult to know when sales will be made or finalized. This also makes it difficult to determine the effectiveness of advertising and other marketing efforts since there is typically a variable delay between the decision to buy and the actual sale.

16. I believe that budgeting cycles have affected the sales of the product. For example, as seen in Exhibit A, sales of the product generally increased throughout 2000 until about August, then begin to decline through the remainder of 2000 and have begun to climb again by about March 2001. This decline and recent increase may be a result of budgeting cycles of the individual police agencies, not due to any lack of effectiveness in the product.

17. Furthermore, once a law enforcement agency has decided to purchase, budgeted and approved the appropriate funds, and purchased the product, the officers or law enforcement personnel to use the product must be trained on the use of the proper use of the product. Officers must be trained how to properly use the product as well as be trained on the handling of the suspect and the filling out of additional department forms. This training represents a significant indirect cost to the agencies since the persons to be trained must be pulled from their regular duty, replaced in their regular duties by another officer and then actually trained. The police agency pays for each person to participate in the training (both trainers and trainees) and pays for the replacement officer (typically at overtime wages). Thus, in order to implement a new weapon system, the costs of the actual implementation may exceed the costs of the equipment itself.

18. Due to these additional costs, many law enforcement agencies are resistant to adopt the Pepperball product in view of the costs alone.



Generally, we have found that the agencies that have received quotes and not purchased the Pepperball product, have done so for reasons of cost and/or budget concerns, not due to their dissatisfaction with the product.

19. In addition to barriers in the market to potential sales of the Pepperball product, there are several barriers to potential sales that are self-imposed or self-created. In other words, through our sales strategy during the first 18 months, we have introduced several potential barriers to sales.

20. One potential barrier is the cost of the Pepperball product. JTS currently charges between \$350-450 for a launcher kit that includes a compressed gas launcher, carrying case, hopper and HPA (high pressure air) bottle. Our most popular compressed gas launcher kit sells for \$378. The powder irritant containing projectiles each cost between \$1.12 and \$1.60 depending on the quantity ordered.

21. Furthermore, during our first 18 months of sales, as a prerequisite to being able to buy the product, JTS requires that a certain number of persons in each law enforcement agency be trained and certified to use the Pepperball Product and to train others within the law enforcement agency. Currently, JTS personnel train present an eight hour training course to each law enforcement agency on the proper use of the Pepperball product before we will sell them the product. In the last 18 months, the cost of this training and certification is also charged to the purchaser, but only

if they decide to purchase the product. The cost of the training and certification is approximately \$150 per person to be trained. The revenues generated from this training are also included in the sales figures of Exhibit A. With future sales, the cost of the training and certification will be charged to the purchaser and prepaid even if the purchaser does not eventually purchase the product.

22. This training and certification represents a significant cost to the agencies since the persons to be trained must be pulled from their regular duty, replaced by another officer and then trained. The police agency pays for each person to participate in the training, pays for the replacement officer (typically at overtime wages), and ultimately pays for the training class itself. By not requiring training and certification, it may have been possible to sell our product to even more law enforcement agencies.

23. In comparison, to my knowledge, most companies that sell other less-lethal and non-lethal products do not require that their customers be trained prior to being able to purchase their products.

24. Additionally, another self-created possible barrier to potential new sales may be the unintended result of our current sales strategy. During the first 18 months, JTS has not used the traditional "distributed sales model" in which a large credentialed sales force sells the product using commissioned field representatives or distributors. These distributors sell

the product to the law enforcement agencies. In contrast, JTS employs the "direct sales model", in which JTS employees directly sell the product to law enforcement. This is motivated by our desire to develop a continuing relationship with their customers by providing attentive and high quality service and customer satisfaction, as well as comprehensive training. This training also reduces our liability since we have instructed the agencies on the proper use of the product. Therefore, during the first 18 months of sales, we have focused our selling efforts on achieving a high quality of sales instead of a high quantity of sales.

25. Since we are interested in providing the best service possible, we do not employ traditional large sales staff. During the period of sales from January 2000 through June 2001, our total sales staff consisted of five (5) persons responsible for selling the product nationwide. Furthermore, this sales staff does not include "salesmen" in the traditional sense. We have not hired credentialed salespersons to sell the product, we hire ex-law enforcement officials to sell the product. Thus, in order to better understand the issues relating to the purchase and implementation and better react to such issues, we use "cops" to sell to "cops".

26. Therefore, since we have focused our attention to fewer, higher quality sales, it may have been possible to have sold the product to even more customers in the first 18 months if we had adopted another sales strategy. However, again, our primary goal was to provide a great relationship and customer service

experience for the customers we obtain, rather than provide an average customer service experience with little or no product training for as many customers as possible. Regardless, despite our current sales strategy, we have sold the product to a significant number of customers.

27. Thus, since the direct and indirect costs of purchasing and implementing the product are significant, since the budget process may slow down or prevent sales, and since JTS has not sought to sell the product to as many customers as possible, I believe that these sales figures are extraordinary and demonstrate the products overall effectivity and superior performance as a non-lethal system for law enforcement.

28. Since there are barriers to selling the product in the market, it has made it more difficult to convince law enforcement that the long term costs of implementing the Pepperball system will be lower. For example, with fewer lethal police shootings, law enforcement agencies will be able to budget less money to handle law suits resulting from police shootings. Furthermore, law enforcement agencies will save money by not having to investigate fatal police shootings. With most less-lethal products on the market, there is a risk that they can be lethal. In contrast, the Pepperball product is not lethal in almost every normal use of the product. Also, the Pepperball product may be used without requiring that the suspect receive medical attention at an additional cost to the agency. For example, bean bag shotgun rounds, tasers and OC sprays

may require medical attention. A suspect struck by a bean bag shotgun round is usually inspected at a hospital for broken bones and other internal damage due to the force of the impact on the suspect. Such hospital visits typically cost the agency at least \$350. Again, with the Pepperball product, the suspect may be taken directly to the station without requiring a medical inspection. Additionally, the use of OC sprays and tasers often require that the suspect is provided with medical attention, which again costs the agency.

29. Additionally, JTS can be described as a small start up company. JTS was spun off from Jaycor, Inc. Although Jaycor, Inc. has a background in the defense industry, Jaycor, Inc. does not generally market and sell products to law enforcement agencies. Thus, JTS' affiliation with Jaycor, Inc. has not provided significant law enforcement contacts to assist in selling the Pepperball product.

30. Our marketing efforts relating to the Pepperball product include advertising, participating in tradeshow, demonstrations and promotions, and maintaining a website. As shown in Exhibit E, from January 2000 to April 2001, JTS has spent no more than about 21% of the total revenue from sales of the Pepperball product per month on marketing efforts. Furthermore, during most months, the monthly percentage of marketing expenses to gross revenues (or sales) is considerably less. From January 2000 through the end of April 2001, the average monthly marketing expenses are about 7% of gross revenues. Furthermore, the percentage

of marketing expense to revenue has generally decreased since March of 2000. Thus, after March of 2000, the average monthly marketing expenses were about 4.6% of the gross revenues.

31. Trade shows are a large component of our marketing efforts. The first tradeshow we participated in was in March of 1999 at the TREXPO tradeshow. The product was shown at 4 tradeshows in 1999, 24 tradeshows in 2000 and in 2001, we are scheduled to demonstrate the product in about 33 tradeshows (See Exhibit F, which lists the tradeshows for 1999, 2000 and 2001). The cost of each tradeshow is variable, but is reflected in the "Trade Shows" row of Exhibit E. The costs of participating in Trade Shows has been our largest single marketing expense representing an average of about 2.55% per month of the revenue for the period of January 2000 to April 2001.

32. We have also held area promotions. This involves setting up a demonstration for a particular law enforcement agency. For example, a law enforcement agency may host a demonstration that we put on for the agency and other surrounding agencies that wish to attend. On average, from Exhibit E, these area promotions cost about 1.57% per month of the revenue for the period of January 2000 to April 2001.

33. We have also advertised the Pepperball product. Attached is Exhibit G, which is a listing of the dates of the advertisements in the various law enforcement magazines and also includes a copy of the

advertisement as placed. The advertisements of Exhibit G were for the period of September 2000 through December 2000. It is noted that the advertisements have seemed to have little affect on the overall sales of the product since, as shown in Exhibit A, sales of the Pepperball product have slightly declined following the beginning of the advertising period. As seen in Exhibit E, the costs of this advertising is an average of about 1.08% per month of the revenue for the period of January 2000 to April 2001.

34. We also maintain a website that promotes the Pepperball product at [www.pepperball.com](http://www.pepperball.com). This website has undergone several changes over the past 18 months. Attached as Exhibit H are copies of screen prints of some of the webpages from our website as of June 5, 2001. As illustrated in Exhibit E, the costs involved in updating and maintaining this website are an average of about 1.73% per month of the revenue for the period of January 2000 to April 2001.

35. I believe the funds allocated to marketing expenses to be very low, in particular when viewed as a percentage of the marketing expenses to the revenue received on any given month. I also believe that the funds allocated to marketing are on par with other companies offering other less-lethal and non-lethal systems.

36. I believe that the success of the Pepperball product is not primarily the result of our marketing efforts or other market factors, but results

from the fact that the Pepperball product is a completely new and versatile product that offers law enforcement a truly non-lethal solution that may be used in many applications and overcomes the problems of other non-lethal and less-lethal systems available.

37. The pepperball product is non-lethal because it delivers a powdered version of OC, which has been known to be non-lethal in liquid form for years. Furthermore, the projectile is delivered with a compressed gas delivery system, such as a modified paintball launcher. Paintball launchers have been known for years to be non-lethal, i.e., no one has ever died from the impact of paintball projectiles. Bean bag shotgun rounds and other projectiles fired from traditional firearms, shotguns or 37mm/40mm projectile launchers are propelled by gun powder and impact with considerably more kinetic force than the Pepperball projectiles. Thus, these competing products may be potentially lethal if impacted at close range or sensitive locations of the body. Additionally, since the Pepperball projectile is frangible, it breaks apart upon impact, whereas bean bag shotgun rounds and other kinetic rounds are not frangible and impact with more kinetic force.

38. Additionally, most of our compressed gas launchers are able to fire a number of projectiles in short succession, each hit increasing the effect on the suspect. For example, some compressed gas launchers fire about 6-7 projectiles per second. In contrast, many competing devices are one-shot devices or can not be



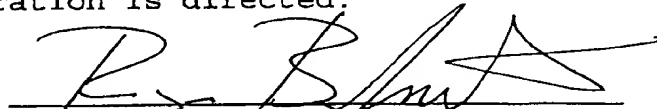
fired quickly. For example, the taser can only be shot once, while bean bag shotgun rounds and 37 mm projectiles can be fired multiple times with a delay between each firing.

39. The fact that the Pepperball product delivers a powdered chemical agent from a distance enables both close and long range use of the device. In comparison, OC sprays can only be used at close range and thus, increase the risk of personal injury to the officer. On the other hand, bean bag shotgun rounds and 37 mm/40 mm projectile rounds may be lethal at close range.

40. Furthermore, the fact that the projectile delivers a powdered chemical agent separates the Pepperball product from other systems on the market. This powdered chemical agent has many advantages over similar liquid chemical agents. The powder allows for center of mass targeting so that the suspect is not required to be hit in the facial area. The powder also provides for indirect targeting to surfaces close to the suspect. The powder radially disperses as a cloud upon impact that surrounds the suspect. The suspect inhales the powder and experiences a temporary inability to breathe as well as coughing and gagging. The powder substance is also easy to clean up without requiring that the suspect undergo medical attention.

41. Additionally, agencies other than law enforcement are shown an interest in the Pepperball product. We are currently in the process of demonstrating the Pepperball product to the U.S. Navy as a possible weapon to non-lethally defend ships from attack. For example the Navy is looking for ways to prevent a ship from ramming another ship, such as recently happened to the U.S.S. Cole in 2000. Also, the U.S. Border Patrol has launched a pilot program in San Diego at the Chula Vista border crossing. The U.S. Border Patrol is testing the effectiveness in border crossing related incidents.

42. As I am advised I must, I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patents issuing thereon, or any patent to which this Declaration is directed.

  
Roger E. Behrendt

Dated: 7/17/, 2001

Attachments:   Exhibit A  
                  Exhibit B  
                  Exhibit C  
                  Exhibit D  
                  Exhibit E  
                  Exhibit F  
                  Exhibit G  
                  Exhibit H